

U.S.S.N. 10/057,026

In The Claims

Claim 11 has been amended as follows:

11. (Amended) A thermal bubble inkjet head having [symmetrical] off-shooter heaters and a rapid ink refill mechanism comprising:

a silicon substrate having a top surface and a bottom surface;

a first and a second insulating material layer of at least 1000 Å thick on said top and bottom surfaces;

a funnel-shaped manifold formed in said second insulating material layer and said silicon substrate;

two spaced-apart heaters formed on said first insulating material layer on said top surface;

two interconnects formed of a conductive metal each in electrical communication with one of said two spaced-apart heaters;

a third insulating material layer on top of said two spaced-apart heaters and said first insulating material layer;

a first photoresist layer of at least 2000 Å thick on top of said third insulating material layer;

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a primary and an auxiliary ink chamber formed in said first photoresist layer in fluid communication with each other and with said funnel-shaped manifold;

a metal seed layer on said first photoresist layer and an inkjet orifice formed in said metal seed layer; and

a Ni layer on top of said metal seed layer with an aperture formed therein in fluid communication with said inkjet orifice.

[Claim 12 has been amended as follows:]

12. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein said first photoresist layer preferably has a thickness of at least 5000Å.

[Claim 13 has been amended as follows:]

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13. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein said inkjet orifice is formed in close proximity to said ring-shaped heater electrode.

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[Claim 14 has been amended as follows:]

14. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein said first and second insulating material layers are a SiO₂ layer or a Si₃N₄ layer. 2

[Claim 15 has been amended as follows:]

15. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein said two spaced-apart heaters are formed of TaAl.

[Claim 16 has been amended as follows:]

16. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein said metal seed layer is deposited of [Cr or Ni].

[Claim 17 has been amended as follows:]

17. (Amended) A thermal bubble inkjet head having [symmetrical] heaters and a rapid ink refill mechanism according to claim 11, wherein one of said two spaced-apart heaters are positioned in said auxiliary ink chamber.